

TECHNICAL SPECIFICATIONS

Trailer Mounted Closed Circuit Television Video Inspection System

1. GENERAL DESCRIPTION:

The Public Works Department is requesting proposals from qualified firms to supply **One (1) Trailer Mounted Closed Circuit Television Video (CCTV) Inspection System** in accordance with the following specifications as minimum.

2. CCTV UNIT

2.1 One (1) Pan, Tilt and Optical Zoom Camera

- Solid State Color Sewer TV Camera with a Panning and Rotational Head, 10x optical zoom, 4x digital zoom.
- Camera lighting system with integrated laser measurement system for 6" to 42" lines.
- The Optical Zoom Pan and Tilt Camera must have built in field replaceable lighting that provides directional lighting for 6" to 42" pipe with no requirement for added external lighting.
- The Optical Pan and Tilt Camera must have the ability to accept built in directional LED Lamps for 6" to 42" lines.
- Camera lighting shall be remotely controlled from the operation station.
- Video micrometer to generate laser measurement on video screen.
- Built in transmitter.
- Camera transportation and storage case.
- The camera mechanics and electronics shall be housed in a high strength, damage resistant, aluminum housing with a stainless steel tube.
- The rear portion of the camera shall not exceed 2.5 inches in diameter to allow for operation in skids and self-propelled units that are designed for 2.5-inch diameter cameras.
- The camera connector shall integrate directly to the transporter, securing with a cam-locking action for positive sealing and retention.
- Any other accessory required for the system to function properly.

2.2 One (1) Camera Transporter

- Unit shall be aluminum or stainless steel compact steerable camera transporter.
- Transporter shall be self-propelled and designed to turn 360 degrees within its own radius.
- Unit shall have forward, free wheel and power reverse.

- Transporter shall have sufficient power and traction to inspect a minimum 1,000 feet of pipe.
- Shall be all-wheel drive and include one motor and enclosed drive train.
- Provider shall supply a kit of rubber wheels for 8" to 15" sewer line inspection.
- Shall have mechanical lift for compact transporter.
- Supplier shall provide a set of maintenance parts.
- Transporter shall be equipped with rear-view camera.
- The electric camera lift for compact transporter shall be remotely controlled to control position and reposition of camera height.
- Any other accessory required for the transporter to function properly.

2.3 TV Cable Reel Assembly

- Provider shall supply a cable reel frame.
- Cable shall be multi conductor combination TV transmission/tow cable 1,000 feet long minimum and 0.450" diameter.
- Shall have power level wind and multi ratio manual transmission.
- Shall have an automatic cable payout system.
- Shall have footage meter.
- Shall have local reel mount electrical and mechanical control.
- Shall be connected to the system at the operator's station.
- Supplier shall provide a removable drip pan for cleaning.
- Supplier shall provide all necessary camera-cable connectors.
- Any other accessory required for the cable reel assembly to function properly.

2.4 System Control Unit

SCU shall have the following components:

- One (1) 19" (min.) flat screen color TV monitor NTSC/ PAL color standards.
- Power Control Unit (PCU) assembly - Rack mounted.
- Wired USB Controller.
- Computer keyboard and mouse.
- HP color printer.
- Computer unit with sufficient capacity to support data collection software.
- Camera Control Unit (CCU).
- The CCU unit shall be field upgradable with USB thumb drive.
- Camera test cable.
- A handheld portable controller for the pan tilt type camera shall be provided.
- Any other accessory required for the System Control Unit to function properly.

2.5 Data Acquisition Software

- The software shall be NASSCO PACP, LACP, and MACP version 7.0 certified and conform to its pipeline assessment procedures.
- The software shall offer the ability to quickly click on an asset and see all of the history of inspections conducted on that asset.
- Users shall be able to "single click" to burn CD / DVD's, save on a USB drive or generate reports.
- The user shall be able to display live video, playback video, and captured pictures on the screen simultaneously.
- The software shall allow the user to create "single entry" continuous defects, where the continuous defect is defined by the start distance and the length.
- The software shall be configurable to provide user-defined views, preferences and options.
- Software shall create standard and custom reports with built-in templates which can be saved in PDF format.
- The Inspection image files (pictures) shall have the ability to be exported to industry standard formats to include JPEG, BMP, TIFF formats and be transferable by disk, DVD and/or External Hard drive to an external personal computer utilizing standard viewers and printers.

3. TRAILER UNIT

3.1 One (1) Single axle trailer 6'x 10'x 6.5' body GVWR

A functional studio trailer capable of being pulled behind a pickup truck shall be furnished and outfitted to house all necessary equipment for the CCTV System. The trailer shall include the following as minimum:

- Full width rear doors
- Extended tongue
- Insulated walls and ceiling
- Roof Mounted amber strobe
- Adjustable flood lights mounted on rear of trailer
- Electrical outlet with dual receptacles
- Roof mounted 9,200 BTU air conditioner with heat strip
- Finished Desk/work area
- Base cabinet
- Washdown system including: 20 gallon fresh water tank, electric water pump and retractable hose reel with 25' water hose and nozzle.
- Waterproof and rustproof flooring
- Fluorescent light fixture with switch
- Commercial power supply receptacle 25' cord and plug
- Electrical supply center with circuit breaker box
- Fire extinguisher with bracket, 10 BC rating

- 15 gallon fuel tank
- Tool chest with five (5) drawers
- Bulkhead wall with door
- 24" non glare monitor installed on bulkhead wall and connected to the computer.
- LED traffic director with 30 Feet cable
- Down hole storage bracket, mounted inside rear door

3.2 One (1) 6000 Watts gasoline tongue mounted generator set features including:

- 120 volt 60 HZ EFI (Electronic Fuel Injection) unit.
- Shall be tongue mounted and enclosed in a sound-attenuated housing and furnished with a 4-point mounting system with coil spring vibration isolators to ensure quiet operation.
- An enclosed muffler for reduced noise and ease of installation.
- Self-diagnostic capabilities to simplify troubleshooting.
- Digital voltage regulation to ensure voltage stability as loads change.
- Overspeed/underspeed protection and low power factor field overcurrent protection.
- Integral USDA Forest Service-approved spark-arrestor muffler.
- Sound level max 69 dB at 10 ft, typical installation, full load Engine.
- Equipped with pressurized thru flow cooling system and an oil alert system to automatically shut off the engine to prevent damage when the oil level drops below the recommendation level.
- Equipped with electrical starting control (electronic ignition) for local and remote start/stop operation.
- A generator compartment with a 30-amp external shore power receptacle shall be provided.
- Shore power to generator switchover shall be accomplished through a UL approved automatic changeover switch with suitable time delay to avoid damaging power surges.
- A 25 foot, 30 A shore power extension cable shall be supplied.
- The System engineering panel shall provide monitoring of the power supply to the system. The panel circuitry shall be assembled in a rack-mounted panel for installation into a control console. The faceplate shall be heavy gauge aluminum finished with an industrial grade vinyl surface and shall have permanent labels designating the function of the various switches and controls. Provisions shall be made on the panel for the following items: AC Voltage Readout, AC Frequency Readout (58-62Hertz), Amps, kW used, Generator Remote Start/Stop, Generator Hour Meter, 12V DC Battery Level Indicator.

4. MISCELLANEOUS

The supplier shall also provide the following items:

- One (1) manhole roller top assembly with all the necessary pulleys
- One (1) manhole adapter hook
- One (1) retrieval /downhole pole assembly
- One (1) invert roller to protect the TV/winch cable from damage during the inspection.

5. ADDITIONAL REQUIREMENTS:

The supplier shall provide:

- Two (2) sets of operation and maintenance manuals.
- One (1) Maintenance tool kit to include any specialized tools required for assembly and disassembly of equipment provided.
- Two (2) years warranty for all components provided in written form.
- The supplier shall ensure complete work is free of material and workmanship defects.
- Three (3) days on-site training.

6. DELIVERY:

Delivery of the Trailer Mounted CCTV Inspection Unit shall not exceed eight (8) weeks from award of contract.

Equipment shall be delivered to Town of Groton Water Pollution Control Facility located at 170 Gary Court, Groton CT 06340 from 7:30 AM to 3:00 PM Monday through Friday, except holidays.

For questions please contact Chris Lund at clund@groton-ct.gov, or at 860-441-6736.

END OF SECTION